

### **REMARKS**

Claims 1-26 were previously pending. Claims 24 and 26 have been canceled. Claims 27-30 have been added. Reconsideration of presently pending claims 1-23, 25, and 27-30 is respectfully requested in light of the above amendments and the following remarks.

#### **Objection to Drawings**

The drawings were objected to under 37 C.F.R. 1.83(a) for failing to show every feature of the invention specified in the claims. In particular, the Office Action stated that “the depressions in the first and second surfaces as per claim 12 must be shown in the manner in which they are claimed.” Figs. 24-28 illustrate one embodiment of an intervertebral implant where the first and second surfaces have depressions as specified in claim 12. Thus, Applicants respectfully submit that the drawings are in proper condition for acceptance.

#### **Double Patenting**

Claims 1-20 and 25 were provisionally rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 1-23 of copending Patent Application No. 10/806,961. Applicants acknowledge this provisional rejection and will address any double patenting issues if and when a double patenting problem comes to fruition.

#### **§ 112 Rejections**

##### **Claim 14**

Claim 14 was rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the enablement requirement. In particular, the Office Action stated, “The specification and diagrams support movement in the direction of two axes (66 and 62), however movement in the direction of a third axes (44) is not explained or elaborated on.” However, while a device having

the elements of claim 14 may allow for movement or translation in the directions of three axes, claim 14 does not contain such a limitation. Rather, claim 14 only requires the first member to be translatable with respect to the second member along a single axis—the third axis—but may allow the first member to be translatable with respect to the second member along other axes.

Claim 1 requires that “the first and second members [be] biased towards an alignment along a first axis passing through the first and second bone portions.” This language, however, does not require the first member to be translatable with respect to the second member along the first axis. For example, if the first axis is considered to be a vertical axis passing through the first and second bone portions, then the first member can be translatable with respect to the second member along a horizontal axis such that the first and second members are biased towards an alignment with the vertical axis. Thus, it is clear that claim 14 does not require translation between the first and second members along three axes.

For these reasons, Applicants submit that claim 14, as written, is fully enabled. Thus, Applicants respectfully request Examiner withdraw the §112-first paragraph rejection of claim 14.

#### Claim 12

Claim 12 was rejected under 35 U.S.C. § 112, second paragraph, for omitting an essential structural cooperative relationship of the elements. While Applicants do not agree that claim 12 was missing a structural cooperative relationship as previously written, claim 1, from which claim 12 depends and further limits, has been amended and the issue has become moot. As currently written, Applicants submit that the structural cooperative relationships between the elements of claim 12 are clear. Thus, Applicants respectfully request Examiner withdraw the §112-second paragraph rejection of claim 12.

#### Claim 20

Claim 20 was rejected under 35 U.S.C. § 112, first paragraph, for failing to comply with the enablement requirement. Similar to claim 12 above, while Applicants do not agree that claim

20 was not enabled as previously written, the issue has become moot due to the amendment of claim 1, from which claim 20 depends and further limits. As currently written, Applicants submit that claim 20 is fully enabled. Thus, Applicants respectfully request Examiner withdraw the §112-first paragraph rejection of claim 20.

### **§ 102 Rejections**

#### **U.S. Patent No. 5,534,029 to Shima**

Claims 1-5, 8, 9, 11, 13-15, 17-19, and 21-23 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,534,029 to Shima ("Shima").

The PTO provides in MPEP § 2131 that

*"[t]o anticipate a claim, the reference must teach every element of the claim...."*

Therefore, to sustain the rejection of these claims Shima must teach all of the claimed elements. However, Shima fails to disclose all of the claimed elements of independent claim 1 and, therefore, its dependent claims 2-5, 8, 9, 11, 13-15, 17-19, and 21-23.

In particular, Shima at least fails to teach "a first surface with a first curve, the first curve having a first radius of curvature" and "a second surface with a second curve, the second curve having a second radius of curvature smaller than the first radius of curvature." Rather, as shown in Figs.1, 2, 4, and 5 of Shima the radii of curvature for the curved surfaces are the same. Further, Col. 4, lines 11-15 states in part that the "concave sliding contact surface 10 [has] *substantially the same curvature radius* as that of the convex sliding contact surface 6." (Emphasis added).

Also, Shima at least fails to teach "the first member [] translatable with respect to the second member." Shima describes a cavity that allows the upper joint piece to pivot with forward/backward and bending motions. Col. 2, lines 23-26. However, there is no indication that upper and lower joint pieces of Shima are translatable. In fact, the concave sliding contact

surface having the same curvature radius as the convex sliding contact surface—while allowing pivotal and rotational movement—precludes translational movement between the two pieces.

Therefore, the § 102 rejections of claims 1-5, 8, 9, 11, 13-15, 17-19, and 21-23 are not supported by Shima. Thus, Applicants respectfully request Examiner withdraw these §102(b) rejections of claims 1-5, 8, 9, 11, 13-15, 17-19, and 21-23.

U.S. Patent No. 6,146,421 to Gordon et al.

Claims 1, 6-9, 17, 19, 20, and 25 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,146,421 to Gordon et al (“Gordon”). To sustain the rejection of these claims Gordon must teach all of the claimed elements. However, Gordon fails to disclose all of the claimed elements of independent claim 1 and, therefore, its dependent claims 6-9, 17, 19 and 20.

In particular, Gordon at least fails to teach having “the first member [] translatable with respect to the second member,” as recited by claim 1. As stated at Col. 7, lines 18-20, “as with flexion and extension, during lateral bending the male component remains centered over the female component.” Thus, while the device in Gordon allows for a range of motion, the device does not appear to allow the first member to be translatable with respect to the second member.

Claim 25 contains a similar limitation to claim 1 in that “the first member is translatable with respect to the second member.” Thus, Gordon fails to teach every element of claim 22 for similar reasons.

Therefore, the § 102 rejections of claims 1, 6-9, 17, 19, 20, and 25 are not supported by Gordon. Thus, Applicants respectfully request Examiner withdraw these § 102(b) rejections of claims 1, 6-9, 17, 19, 20, and 22.

U.S. Patent No. 5,899,941 to Nishijima et al.

Claims 1, 6, 7, 15, and 16 were rejected under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 5,899,941 to Nishijima et al. (“Nishijima”). To sustain the rejection of these claims Nishijima must teach all of the claimed elements. However, Nishijima fails to disclose all

of the claimed elements of independent claim 1 and, therefore, its dependent claims 6, 7, 15, and 16.

In particular, Nishijima at least fails to teach three components: a first member for engaging a first vertebral body; a second member for engaging a second vertebral body; and a center member adapted for placement at least partially the between the first member and the second member. Rather, Nishijima discloses two components: “a pair of upper and lower first and second connecting bodies 2 and 3.” Col. 2, lines 50-51. Thus, Nishijima fails to teach all of the elements of claim 1.

U.S. Patent No. 5,676,701 to Yuan et al.

As a preliminary matter, U.S. Patent No. 5,676,701 to Yuan et al. (“Yuan”) and U.S. Patent No. 6,179,874 to Cauthen (“Cauthen”) have been considered by Applicants. The Office Action cited U.S. Patent No. 5,676,701 as being granted to Cauthen, not Yuan et al. However, the discussion in the Office Action does not appear to relate to U.S. Patent No. 5,676,701 as the reference numerals do not correlate to the reference numerals discussed in Yuan. Rather, the discussion appears to relate to U.S. Patent No. 6,179,874 to Cauthen, considered below. For completeness, both patents have been addressed by Applicants.

Claims 1, 10, and 12 were rejected under 35 U.S.C. §102(b) as being anticipated by Yuan. To sustain the rejection of these claims Yuan must teach all of the claimed elements. However, Yuan fails to disclose all of the claimed elements of independent claim 1 and, therefore, its dependent claims 10 and 12.

Similar to Nishijima above, Yuan at least fails to teach three components: a first member for engaging a first vertebral body; a second member for engaging a second vertebral body; and a center member adapted for placement at least partially the between the first member and the second member. Rather, Yuan discloses two components. “[T]he present invention includes a first component or intervertebral support block 20 for attaching to the end plate of a first vertebrae and a second component or intervertebral bearing block 30 for attaching to the end

plate of a second adjoining vertebrae.” Col. 3-4, lines 65-2. Thus, Yuan fails to teach all of the elements of claim 1.

Therefore, the § 102 rejections of claims 1, 10, and 12 are not supported by Yuan. Thus, Applicants respectfully request Examiner withdraw these § 102(b) rejections of claims 1, 10, and 12.

U.S. Patent No. 6,179,874 to Cauthen

As discussed above, it appears the Office Action was attempting to reject claims 1, 10, and 12 under 35 U.S.C. § 102(b) as being anticipated by U.S. Patent No. 6,179,874 to Cauthen (“Cauthen”). To sustain the rejection of these claims Cauthen must teach all of the claimed elements. However, Cauthen fails to disclose all of the claimed elements of independent claim 1 and, therefore, its dependent claims 10 and 12.

Again, similar to Nishijima and Yuan above, Cauthen at least fails to teach three components: a first member for engaging a first vertebral body; a second member for engaging a second vertebral body; and a center member adapted for placement at least partially the between the first member and the second member. Rather, Cauthen discloses two components. “The spinal implant 10 generally compris[es] a first element 20 and a second element 22.” Col. 4, lines 46-47. Thus, Cauthen fails to teach all of the elements of claim 1.

Therefore, the §102 rejections of claims 1, 10, and 12 are not supported by Cauthen. Thus, Applicants respectfully request Examiner withdraw these §102(b) rejections of claims 1, 10, and 12.

U.S. Patent Application Publication No. 2004/0133281 to Khandkar et al.

Claims 1, 10, and 12 were rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent Application Publication No. 2004/0133281 to Khandkar et al. (“Khandkar”). To sustain the rejection of these claims Khandkar must teach all of the claimed elements. However, Khandkar fails to disclose all of the claimed elements of independent claim 1 and, therefore, its

dependent claims 10 and 12.

Khandkar at least fails to teach “a first surface with a first curve, the first curve having a first radius of curvature” and “a second surface with a second curve, the second curve having a second radius of curvature smaller than the first radius of curvature.” Rather, Khandkar discloses having the radii of curvature for the curved surfaces substantially the same. For example, the bearing components 22, 24 are “similarly sized and shaped.” Paragraph [0049]. Further, the bearing surfaces 42, 44 are “similarly sized and shaped.” Paragraph [0070] Thus, Khandkar fails to teach all of the elements of claim 1.

Therefore, the §102 rejections of claims 1, 10, and 12 are not supported by Khandkar. Thus, Applicants respectfully request Examiner withdraw these §102(b) rejections of claims 1, 10, and 12.

**CONCLUSION**

It is clear from the foregoing that independent claims 1 and 25 are in condition for allowance. Dependent claims 2-23 and 27-30 depend from and further limit independent claim 1 and, therefore, are allowable as well.

It is believed that all matters set forth in the Office Action have been addressed, and that claims 1-23, 25, and 27-30 are in condition for allowance. Favorable consideration and an early indication of the allowance of the claims are respectfully requested. Should the Examiner deem that an interview with Applicant's undersigned attorney would expedite consideration, the Examiner is invited to call the undersigned attorney at the telephone number indicated below.

Respectfully submitted,



David M. O'Dell  
Registration No. 42,044

Dated: Apr. 4, 2006

HAYNES AND BOONE, LLP  
901 Main Street, Suite 3100  
Dallas, Texas 75202-3789  
Telephone: 972/739-8635  
Facsimile: 214/200-0853  
R-129751.1

<p>I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Commissioner For Patents, P.O. Box 1450, Alexandria, VA 22313-1450</p> <p>on: <u>4-4-06</u></p> <p><u>Dayle Conner</u></p> <p>Signature of person mailing paper and fee</p>
--